



**Pocket Guide to**

# **Caution Zone Jobs**



## Who should use this guide?

This advisory pocket guide is useful for employers and workers who want to improve safety in the workplace. It describes risk factors that can lead to injury and recommends ways to identify them.

Some words in this pocket guide have been changed because they refer to an ergonomics rule, which no longer exists. The rule was eliminated in November 2003.

If you are interested in a no-fee consultation or other assistance from an ergonomist at the Department of Labor and Industries, please call 360-902-5450 or send an e-mail to [ergonomics@LNI.wa.gov](mailto:ergonomics@LNI.wa.gov).

# What is a caution zone job?

It is a work activity performed regularly by workers that involves any of 14 risk factors. We describe and show you these 14 risk factors on the following pages. These risk factors can be grouped into the following six categories:

- Awkward postures of the shoulders, arms, neck, back or knees (risk factors 1-4)
- High hand force (risk factors 5-6)
- Highly repetitive motion of the neck, shoulders, elbows, wrists or hands (risk factors 7-8)
- Repeated impacts with the hands or knees (risk factor 9)
- Lifting objects (risk factors 10-12)
- Using tools that have high or moderate vibration (risk factors 13-14)

Performed regularly means done more than one day a week and more frequently than one week per year.



# How do you look for caution zone jobs?

Not every workplace has caution zone jobs. However, you can spot them easily if you observe your workers doing their jobs.

The kind of work your employees perform and how many employees you have will determine your approach. One effective approach would be to:

- Plan a walk-through review.
- Ask employees and supervisors for input.
- Assess one type of job at a time using this pocket guide.

- Observe long enough to clearly understand the job as it is normally performed.
- Determine exposure correctly. It is the time exposed to the risk factor, not the time spent doing the work activity that includes the risk factor. For example, a worker may kneel off and on throughout an eight-hour shift. But the time the worker is in a kneeling position may only be two hours.
- Use a caution zone checklist like the one available from the Department of Labor and Industries at:  
[www.LNI.wa.gov/wisha/ergo/evaltools/](http://www.LNI.wa.gov/wisha/ergo/evaltools/)

# 1

## Awkward Postures of the Shoulders and Arms

### The risk factor is:

Working with the hand(s) above the head, or elbow(s) above the shoulder, for more than 2 hours total per day.



## **Check this:**

- Determine how long the employee works with their hands above their head.
- Determine how long the employee works with their elbows above their shoulder.

# 2

## Awkward Postures of the Neck or Back

### The risk factor is:

Working with the neck or back bent more than 30 degrees (without support and without the ability to vary posture), more than 2 hours total per day.





## **Check this:**

- Observe how long the employee's neck or back is bent more than 30 degrees.
- Use the line of the spine, not the floor, as the "neutral line."

## **Know this:**

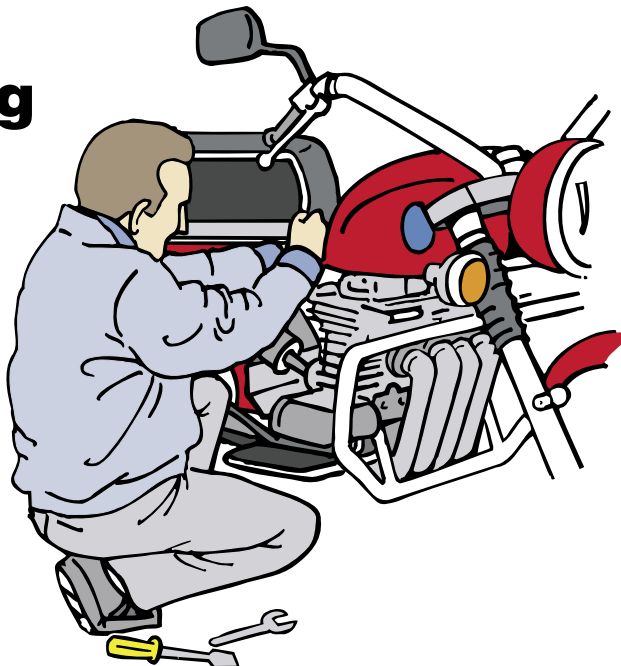
- Refer to the "neutral line" to determine the degree that the back is bent from the vertical.
- Some work that requires a bent neck or back would not be an awkward posture. Examples are reading a book or papers at a desk. In both cases, the worker has the ability to vary posture.

# 3

## Squatting

**The risk factor is:**

Squatting more than  
2 hours total per day.



## **Check this:**

- Observe how long the employee works with their knees flexed.
- See if the knees are in front of the toes to decide if the knees are bent enough to be considered squatting.

## **Know this:**

- Squatting is considered to be both knees flexed in the squatting posture, but not kneeling (see kneeling, next page).

# 4

## Kneeling

**The risk factor is:**  
Kneeling more than  
2 hours total per day.



## **Check this:**

- Observe how long the employee works with their knee or knees on the floor.

## **Know this:**

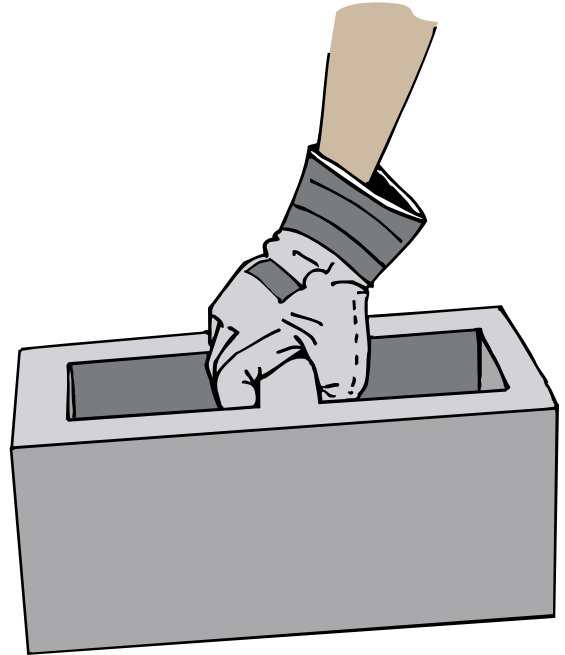
- Kneeling is considered to be one knee or both knees on the floor, supporting body weight in total or partially.

# 5 Pinching

## **The risk factor is:**

Pinching an unsupported object or objects weighing 2 or more pounds per hand, or pinching with a force of 4 or more pounds per hand, more than 2 hours total per day.

(This is comparable to pinching a half a ream of paper.)



## **Check this:**

- Observe how long the employee pinches.

## **Know this:**

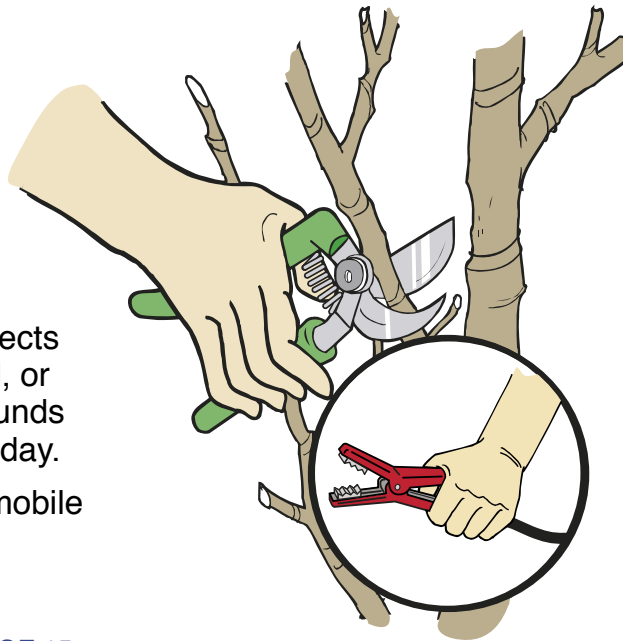
- Pinching is any type of manipulation that primarily involves the tips or pads of finger(s) and thumb.
- Fingers usually are straight when the hand is pinching.
- Duration is the amount of time that the pinching force is being applied.
- Examples of pinching jobs are holding cinder blocks or heavy objects.

# 6 Gripping

## The risk factor is:

Gripping an unsupported object or objects weighing 10 or more pounds per hand, or gripping with a force of 10 or more pounds per hand, more than 2 hours total per day.

(This is comparable to clamping automobile jumper cables onto a battery.)





## **Check this:**

- Observe how long the employee grips.

## **Know this:**

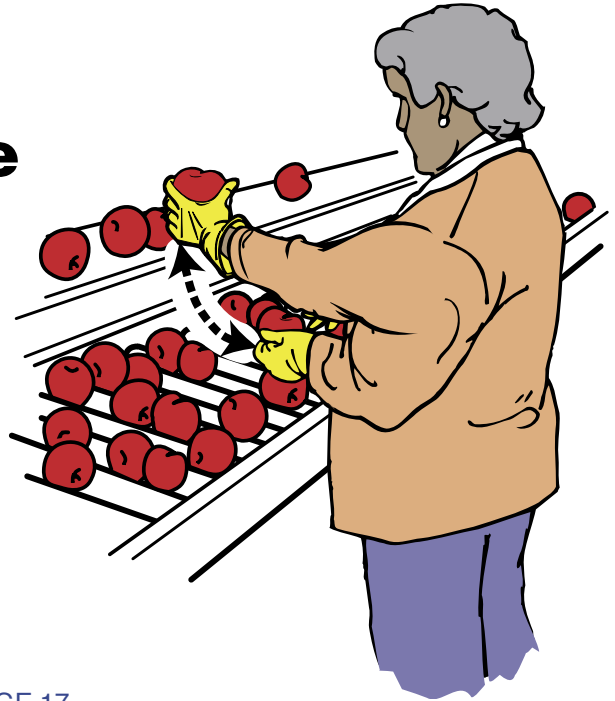
- Duration is the amount of time that gripping force is being applied.
- Gripping will typically include contact with the palm of the hand, especially at the base of the thumb, allowing the thumb to help grasp the object or tool.
- The hand is usually shaped like a “fist.”
- Some examples of gripping jobs: grasping the handle of a hammer, holding on to pruning shears, grasping a screw driver.

# 7

## Highly Repetitive

### The risk factor is:

Repeating the same motion with the neck, shoulders, elbows, wrists or hands (excluding keying activities) with little or no variation every few seconds, for more than 2 hours per day.



## **Check this:**

- Observe how long the employee repeats the same motion.
- To observe the motion pattern focus on a single segment or joint of the upper limb.

## **Know this:**

- Repetitive motions are generally found in jobs where a machine determines the pace of the employee's movements.

# 8

## Keying

**The risk factor is:**

Performing intensive  
keying more than  
4 hours total per day.



## **Check this:**

- Determine the duration by estimating the actual time spent keying.

## **Know this:**

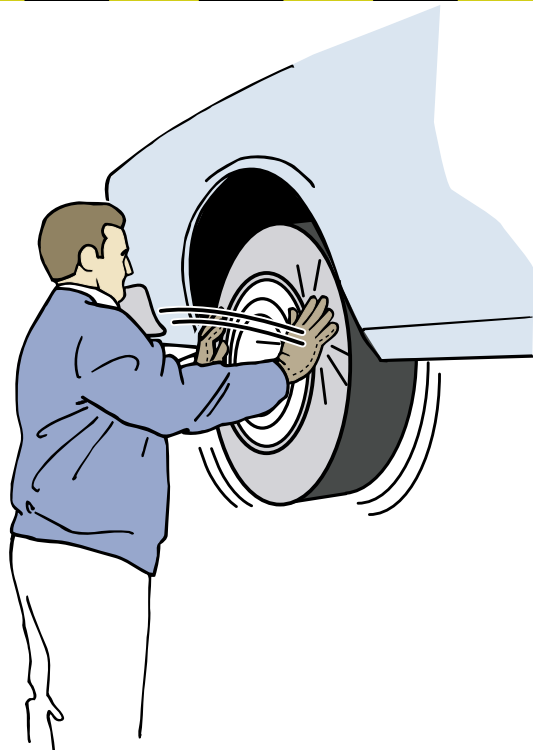
- Intensive keying means keying with the hands or fingers in a rapid, steady motion with few opportunities for temporary work pauses.
- Do not include time spent on breaks or other job tasks when estimating duration.

# 9

## Repeated Impact

### The risk factor is:

Using the hand (heel/base of palm) or knee as a hammer more than 10 times per hour, more than 2 hours total per day.



## **Check this:**

- Observe the number of impacts per hour.
- Determine whether 10 or more impacts per hour occur more than 2 hours total per day.

# 10 Heavy Lifting

**The risk factor is:**

Lifting objects weighing more than 75 pounds once per day or more than 55 pounds more than 10 times per day.





## **Check this:**

- Determine the weight of objects (printed on carton, stamped on item, etc.) to see if any object lifted by a single employee weighs more than 75 pounds.
- If any object weighs 55-75 pounds, determine if that object is lifted by a single employee more than 10 times a day.

# 11 Frequent Lifting

**The risk factor is:**

Lifting objects weighing more than 10 pounds, if done more than twice per minute, more than 2 hours per day.



## **Check this:**

- Determine the weight of objects (printed on carton, stamped on item, etc.) to see if any weigh more than 10 pounds.
- Determine how often objects weighing more than 10 pounds are lifted.

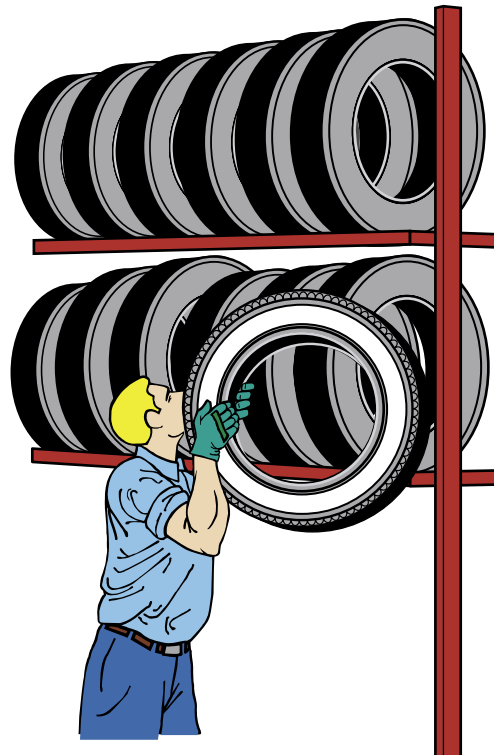
## **Know this:**

- Any minute that an employee lifts objects weighing 10 or more pounds counts toward the 2-hour total.

# 12 Awkward Lifting

**The risk factor is:**

Lifting objects weighing more than 25 pounds above the shoulders, below the knees or at arms length, more than 25 times per day.



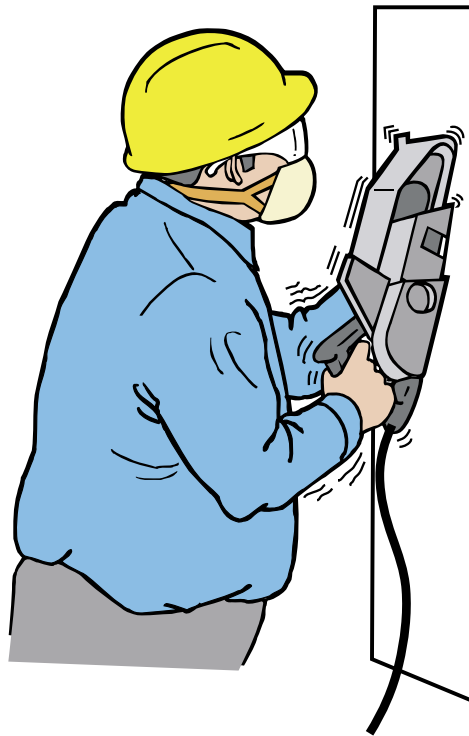
## **Check this:**

- Identify objects that are lifted above the shoulders, below the knees or at arms length.
- Determine the weight of these objects (printed on carton, stamped on item, etc.) to see if any weigh more than 25 pounds. For those that do, determine if they are lifted more than 25 times per day.

# 13 High Hand-Arm Vibration

## The risk factor is:

Using impact wrenches, carpet strippers, chain saws, percussive tools (jack hammers, scalers, riveting or chipping hammers) or other hand tools that typically have high vibration levels more than 30 minutes total per day.



## **Check this:**

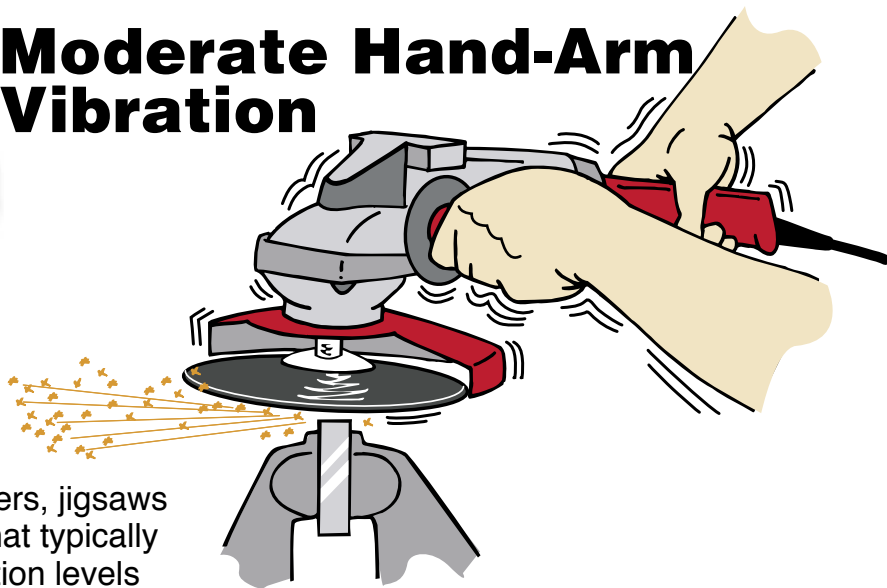
- Estimate how long the worker has the tool in their hand with the power on.
- Obtain the actual vibration level of the hand tool from the user manual, manufacturer, or other source.

## **Know this:**

- If the vibration level is not available, treat the use of the following tools as a caution zone job for high hand-arm vibration: impact wrenches, carpet strippers, chain saws, jack hammers, scalers and riveting or chipping hammers.

# 14

## Moderate Hand-Arm Vibration



### The risk factor is:

Using grinders, sanders, jigsaws or other hand tools that typically have moderate vibration levels more than 2 hours per day.



## **Check this:**

- Estimate how long the worker has the tool in their hand with the power on.
- Obtain the actual vibration level of the hand tool from the user manual, manufacturer, or other source.

## **Know this:**

- If the vibration level is not available, treat the use of the following tools as a caution zone job for moderate hand-arm vibration: grinders, sanders and jigsaws.

# Assistance

For assistance with workplace ergonomics, call us at the location nearest to your business:

City	Telephone #	Contact	E-mail address
Everett	425-290-1382	Claudia Kelley	<a href="mailto:keld235@lni.wa.gov">keld235@lni.wa.gov</a>
Seattle	206-835-1020	Maria Kelley	<a href="mailto:kelr235@lni.wa.gov">kelr235@lni.wa.gov</a>
Spokane	509-324-2550	Lana Pigeon	<a href="mailto:pila235@lni.wa.gov">pila235@lni.wa.gov</a>
Tacoma	253-596-3880	Francine Florance	<a href="mailto:flof235@lni.wa.gov">flof235@lni.wa.gov</a>
Tumwater	360-902-6768	Dana Wilcox	<a href="mailto:widn235@lni.wa.gov">widn235@lni.wa.gov</a>
Yakima	509-454-3784	Paula Hemp	<a href="mailto:hemp235@lni.wa.gov">hemp235@lni.wa.gov</a>

# Ergonomics Tools for Employers

Visit the Department of Labor and Industries web site at:  
[www.LNI.wa.gov/wisha/ergo](http://www.LNI.wa.gov/wisha/ergo) to:

- Obtain free ergonomics awareness education materials (available online, as video training or on CD).
- Learn about ergonomics-related publications and videos.

If you don't use the Internet, call your local L&I office (listed in the government or white pages of telephone directories) for assistance. Local L&I offices also provide safety consultations on request.

Visit [www.LNI.wa.gov/wisha/ergo](http://www.LNI.wa.gov/wisha/ergo) for the online schedule of ergonomics workshops. To obtain a printed list of upcoming workshops or to request a workshop or presentation at your company, call 1-800-574-2829 and press zero on the menu options.

## Ergonomics Ideas Bank

An online service for Washington State businesses ... make a withdrawal or deposit today!

[www.ErgoIdeas.LNI.wa.gov](http://www.ErgoIdeas.LNI.wa.gov)

- Find ideas to protect your workers from injury.
- Look up ways to fix hazards.
- See ideas other employers have used.
- Deposit and share your ideas.



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